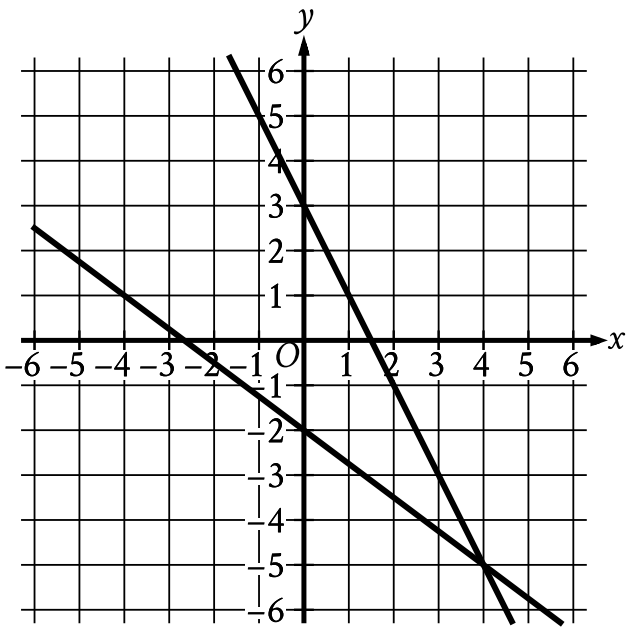
Question ID c1c4598e

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: c1c4598e



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

A. $(4, -5)$

B. $(0, 3)$

C. $(0, -2)$

D. $(-2, 3)$

ID: c1c4598e Answer

Correct Answer: A

Rationale

Choice A is correct. The solution to this system of linear equations is represented by the point that lies on both lines shown, or the point of intersection of the two lines. According to the graph, the point of intersection occurs when $x = 4$ and $y = -5$, or at the point $4, -5$. Therefore, the solution x, y to the system is $4, -5$.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 55eb31cb

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 55eb31cb

$$x = 10$$
$$y = x + 21$$

The solution to the given system of equations is (x, y). What is the value of y?

A. 2.1

B. 10

C. 21

D. 31

ID: 55eb31cb Answer

Correct Answer: D

Rationale

Choice D is correct. It's given by the first equation in the given system of equations that $x = 10$. Substituting 10 for x in the second equation in the given system yields $y = 10 + 21$, or $y = 31$. Therefore, the value of y is 31.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect. This is the value of x, not the value of y.

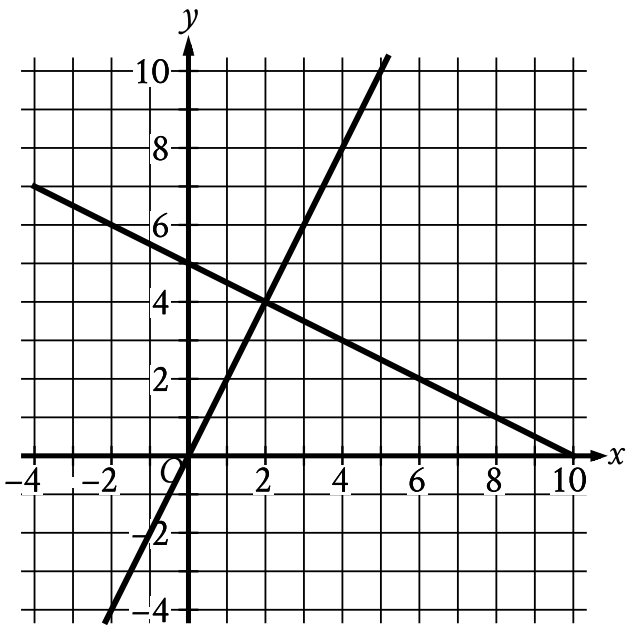
Choice C is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 11bb8341

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 11bb8341



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

A. $(0, 5)$

B. $(2, 4)$

C. $(5, 10)$

D. $(10, 0)$

ID: 11bb8341 Answer

Correct Answer: B

Rationale

Choice B is correct. A solution to a system of equations must be the solution to each equation in the system. It follows that if x, y is a solution to the system, the point x, y lies on the graph in the *xy*-plane of each equation in the system. The point that lies on each graph of the system of linear equations shown is their intersection point $2, 4$. Therefore, the solution to the system is $2, 4$.

Choice A is incorrect. The point $0, 5$ lies on one, but not both, of the graphs of the linear equations shown.

Choice C is incorrect. The point $5, 10$ lies on one, but not both, of the graphs of the linear equations shown.

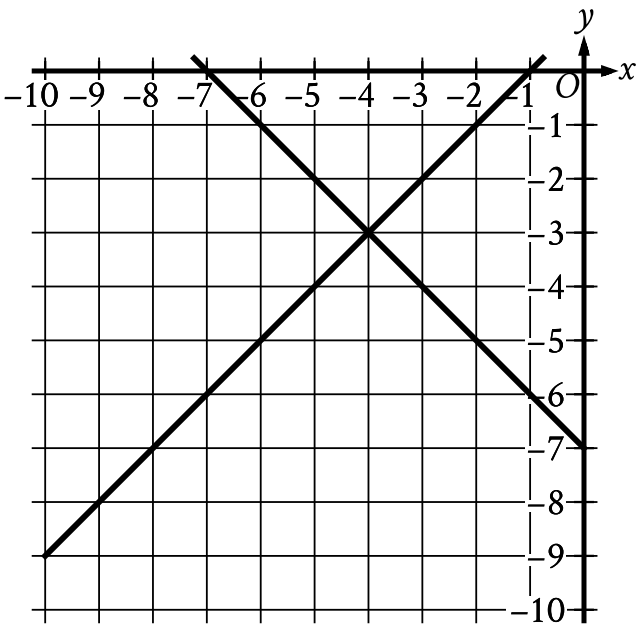
Choice D is incorrect. The point $10, 0$ lies on one, but not both, of the graphs of the linear equations shown.

Question Difficulty: Easy

Question ID 7acfaa0d

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 7acfaa0d



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

A. $(0, -7)$

B. $(0, -3)$

C. $(-4, -3)$

D. $(-4, 0)$

ID: 7acfaa0d Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to a system of linear equations is represented by the point that lies on the graph of each equation in the system, or the point where the lines intersect on a graph. On the graph shown, the two lines intersect at the point -4, - 3. Therefore, the solution to the system is -4, - 3.

Choice A is incorrect. This is the *y*-intercept of the graph of one of the lines shown, not the intersection point of the two lines.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 0d3e0f68

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 0d3e0f68

$$x = 4$$
$$y = 5 - x$$

The solution to the given system of equations is (x, y). What is the value of y?

A. 1

B. 4

C. 5

D. 9

ID: 0d3e0f68 Answer

Correct Answer: A

Rationale

Choice A is correct. The first equation in the given system of equations is $x = 4$. Substituting 4 for x in the second equation in the given system of equations yields $y = 5 - 4$, or $y = 1$.

Choice B is incorrect. This is the value of x in the solution to the given system of equations, not the value of y.

Choice C is incorrect and may result from conceptual or calculation errors.

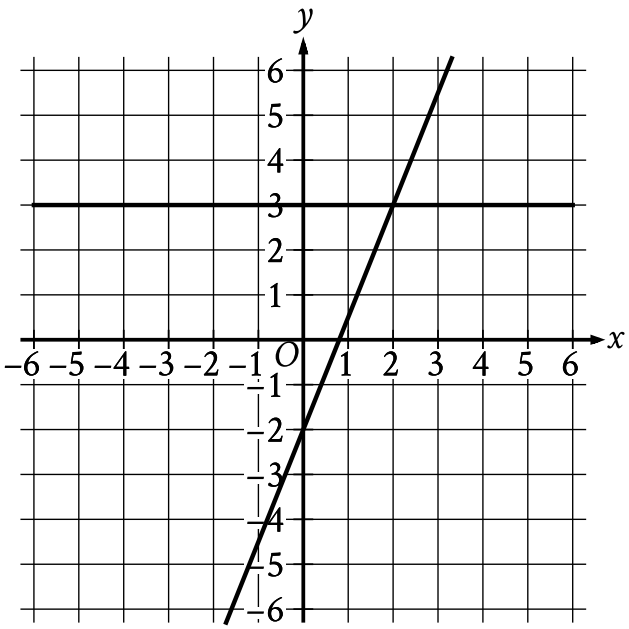
Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID b9d0eb1a

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: b9d0eb1a



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

A. $(0, 3)$

B. $(1, 3)$

C. $(2, 3)$

D. $(3, 3)$

ID: b9d0eb1a Answer

Correct Answer: C

Rationale

Choice C is correct. The solution to this system of linear equations is represented by the point that lies on both lines shown, or the point of intersection of the two lines. According to the graph, the point of intersection occurs when $x = 2$ and $y = 3$, or at the point $2, 3$. Therefore, the solution x, y to the system is $2, 3$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from conceptual or calculation errors.

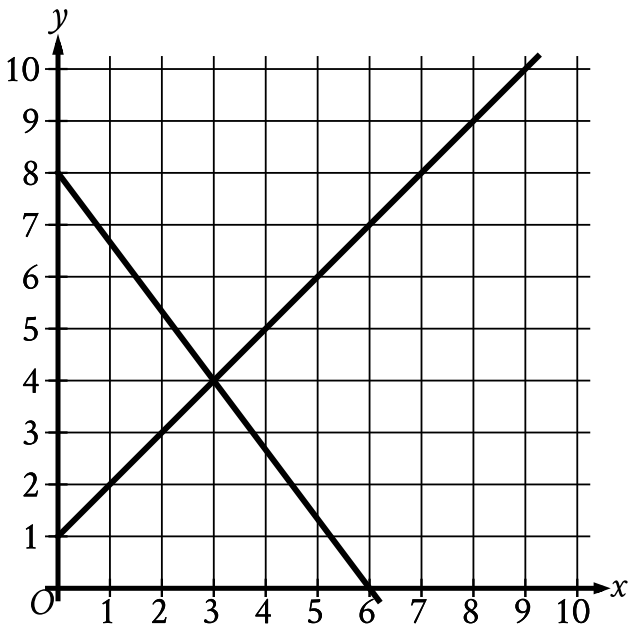
Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 1c51fd62

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 1c51fd62



The graph of a system of linear equations is shown. What is the solution (x, y) to the system?

A. $(2, 3)$

B. $(3, 4)$

C. $(4, 5)$

D. $(5, 6)$

ID: 1c51fd62 Answer

Correct Answer: B

Rationale

Choice B is correct. If a point x, y lies on both lines in the graph of a system of two linear equations, the ordered pair x, y is a solution to the system. The graph shown is the graph of a system of two linear equations, where the two lines in the graph intersect at the point $3, 4$. Therefore, the point $3, 4$ lies on both lines, so the ordered pair $3, 4$ is the solution to the system.

Choice A is incorrect. The point $2, 3$ lies on one, not both, of the lines in the graph shown.

Choice C is incorrect. The point $4, 5$ lies on one, not both, of the lines in the graph shown.

Choice D is incorrect. The point $5, 6$ lies on one, not both, of the lines in the graph shown.

Question Difficulty: Easy

Question ID 9cc8589a

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: 9cc8589a

$$y = 4$$
$$x = y + 6$$

The solution to the given system of equations is (x, y). What is the value of x?

A. 10

B. 6

C. 4

D. 2

ID: 9cc8589a Answer

Correct Answer: A

Rationale

Choice A is correct. According to the first equation in the given system, $y = 4$. Substituting 4 for y in the second equation in the given system yields $x = 4 + 6$, or $x = 10$.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect. This is the value of y, not x.

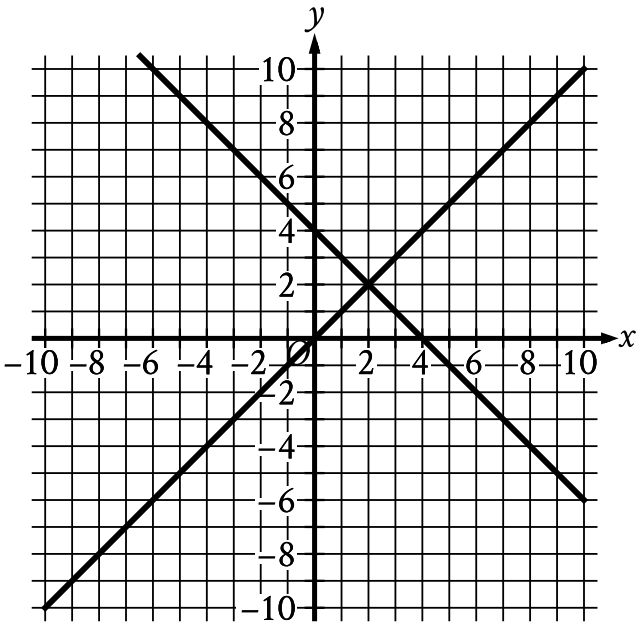
Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID c594da45

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Algebra	Systems of two linear equations in two variables	

ID: c594da45



The graph of a system of two linear equations is shown. What is the solution (x, y) to the system?

A. $(0, 4)$

B. $(2, 2)$

C. $(4, 0)$

D. $(4, 4)$

ID: c594da45 Answer

Correct Answer: B

Rationale

Choice B is correct. The solution to this system of linear equations is represented by the point that lies on both lines shown, or the point of intersection of the two lines. According to the graph, the point of intersection occurs when $x = 2$ and $y = 2$, or at the point $2, 2$. Therefore, the solution x, y to the system is $2, 2$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy